ABSTRACT

A method and apparatus are disclosed for using photoplethysmography to obtain
physiological parameter information related to respiration rate, heart rate, heart
rate variability, blood volume variability and/or the autonomic nervous system. In
one implementation, the process involves obtaining (2502) a pleth, filtering (2504)
the pleth to remove unwanted components, identifying (2506) a signal component
of interest, monitoring (2508) blood pressure changes, monitoring (2510) heart
rate, and performing (2512) an analysis of the blood pressure signal to the heart
rate signal to identify a relationship associated with the component of interest.
Based on this relationship, the component of interest may be identified (2514) as
relating to the respiration or Mayer Wave. If it is related to the respiration wave
(2516), a respiratory parameter such as breathing rate may be determined
(2520). Otherwise, a Mayer Wave analysis (2518) may be performed to obtain
parameter information related to the autonomic nervous system.